IN THE CLAIMS:

Please **amend claim 7**, and **add claims 13-21** as follows:

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1. (*Original*) A method of monitoring and restoring a communications network, comprising the steps of:

receiving a data stream encoded with a transmission code;

decoding the data stream to determine a performance metric based on a number of transmission code violations; and

restoring the performance of the network in response to the performance metric.

2. (*Original*) The method of claim **1**, including the step of:

generating an error rate based on the number of transmission code violations for use as the performance metric.

3. (*Original*) The method of claim **1**, including the step of:

generating a switch signal in response to the performance metric exceeding a predetermined value.

4. (*Original*) The method of claim **3**, including the step of:

transferring the data stream from a first link to a second link in response to the switch signal.

5. (*Original*) The method of claim **2**, wherein the step of generating an error rate includes the step of:

dividing a number of transmission code violations by a predetermined period of time.

6. (*Original*) The method of claim **2**, wherein the step of generating an error rate includes the step of:

dividing a number of transmission code violations by a predetermined number of data frames.

7. (*Currently amended*) A system for monitoring and restoring a communications network, comprising:

a first network element, comprising:

a transmitter having an encoder coupled to receive a data stream, the encoder for encoding the data stream with a transmission code;

a switch coupled to receive the encoded data stream from the transmitter, the switch coupled to a switch signal for switching the encoded data stream from a first link to a second link;

a second network element coupled to the first network element via the first and second links, comprising:

a receiver having a decoder coupled to receive the encoded data stream from the first network element, the decoder for decoding the encoded data stream and determining a number of transmission code violations; and

a monitoring module coupled to receive the number of transmission code violations from the receiver, the monitor module for determining a performance metric based on the number of transmission code violations, and for providing ~~a~~ the switch signal to the switch in the first network element if the performance metric exceeds a predetermined value.

8. (*Original*) The system of claim **7**, wherein the performance metric is an error rate determined from the number of transmission code violations.

9. (*Original*) The system of claim **7**, wherein the transmission code is an 8B/10B code.

10. (*Original*) The system of claim **7**, wherein the transmission code is an 4B/5B code.

11. (*Original*) The system of claim **7**, wherein the communications network is a Gigabit Ethernet.

12. (*Original*) The system of claim **7**, wherein the switch signal is coupled to a third network element in a second communications network.

13. (*New*) A system for monitoring and restoring a communications network, comprising:

a first network element, comprising:

means for transmitting a data stream encoded with a transmission code; and

means for switching the encoded data stream between at least a first link and a second link based on a switch signal; and

a second network element, comprising:

means for receiving the encoded data stream via the first or the second link;

means for determining a number of transmission code violations;

means for determining a performance metric based on the number of transmission code violations; and

means for providing the switch signal based on the performance metric.

14. (*New*) The system of claim **13**, wherein the means for providing the switch signal provides the switch signal if the performance metric exceeds a predetermined value measured over one or more predetermined measurement standards.

15. (*New*) The system of claim **14**, wherein the predetermined measurement standards include a predetermined period of time and a predetermined number of data frames.

16. (*New*) The system of claim **13**, wherein the performance metric is an error rate of the transmitted encoded data stream.

17. (*New*) A method of monitoring and restoring performance between a first network element and a second network element, wherein the first and second network elements are coupled to each other via at least a first link and a second link, the method comprising:

transmitting a data stream from the first network element to the second network element via the first link;

detecting transmission code violations occurring on the first link;

determining a performance metric based on the transmission code violations; and

switching transmission of the data stream from the first network element to the second network element to the second link based on the performance metric.

18. (*New*) The method of claim **17**, wherein the step of switching transmission comprises:

determining a value of the performance metric over one or more predetermined measurement standards; and

switching the transmission to the second link if the value of the performance metric exceeds a predetermined value.

19. (*New*) The method of claim **18**, wherein the predetermined measurement standards include a predetermined period of time and a predetermined number of data frames.

20. (*New*) The method of claim **17**, wherein the data stream is encoded with a transmission code.

21. (*New*) The method of claim **20**, wherein the performance metric is an error rate of the transmitted encoded data stream.